996,233

PATENT SPECIFICATION

DRAWINGS ATTACHED

Inventor: DAVID GIBBONS SMITH

996,233

Date of Application and filing Complete Specification: Oct. 11, 1963.

No. 40760/63.

Complete Specification Published June 23, 1965.

Index at acceptance:—E2 M(11D1, 25)

Int. Cl.:—E 05 f

COMPLETE SPECIFICATION

Improvements in or relating to Door Mounting Structures

We, MOFFATS LIMITED, a Company incorporated under the laws of Canada, of Weston, Ontario, Canada, do hereby declare the invention, for which we pray that a patent may be granted to us, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to door mounting structure and, in particular, to structure suitable for mounting an oven door in a domestic cooking stove.

The invention has particular application to the mounting of doors in ovens which are mounted above the normal cooking surface of a stove so that the oven is, in effect, a separate self-contained enclosure at approximately eye-level.

In stoves of this general kind, the door, if it were hinged in a normal or conventional manner, would present an awkward obstruction and would detract from the efficient use of the oven. Accordingly, it is a primary object of the present invention to provide door mounting structure which will enable the door, when in the open position, to be moved into a recessed storage position so that it is out of the way and does not hinder ready and convenient access to the oven.

According to the present invention there is provided door mounting structure comprising two spaced, vertical, parallel walls defining two sides of an opening to be closed by a door, an L-shaped groove in each wall, each groove opening towards the opposite wall and comprising a vertical portion parallel to and spaced from the vertical front edge of the wall and a horizontal portion parallel to and spaced from the horizontal lower edge of the wall, whereof the horizontal portion is provided with a depression in the lower surface thereof directly beneath the vertical portion of the groove, two mounting elements extending laterally from each side of the door and spaced apart a distance no greater than the length of the vertical portion of the grooves so as to be received in the grooves and to mount the door within the opening, the mounting elements being adapted to traverse the grooves from a first closed position in which both mounting elements on each side of the door are in vertical portions of the grooves and wherein one of the mounting elements engages with the slight depression in the horizontal portion to releasably hold the door to a second open position in which both mounting elements on each side of the door are in the horizontal portions of the grooves.

A preferred embodiment of the present invention will now be described by way of example with reference to the accompanying drawings in which like reference numerals denote like parts in the various views and in which:

Figure 1 is a perspective view, partly cut away, showing the door mounting structure of the present invention;

Figure 2 is a section view taken along a vertical plane through a portion of Figure 1;

Figure 3 is a section view taken along line 3—3 of Figure 2; and

Figure 4 is a detailed cut-away view showing a portion of the structure disclosed in Figure 1.

Referring in detail to the drawings and, in particular, to Figure 1, the invention is illustrated as embodied in an oven structure indicated generally by the reference numeral 10. The oven structure comprises two spaced, vertical, parallel walls 11 and 12 defining two sides of an opening which is to

[*Price* 4*s.* 6*d.*]

be closed by a door. A top wall 13 and a bottom wall 14 completes the enclosure. The walls will normally comprise two skins between which is provided insulating material. This may be readily seen in Figure 2 where the outer skin 13a is shown as lying in spaced relationship with the inner skin 13b with insulating material 14 occupying the space between the two skins. Similar construction may be seen in Figure 1 associated with the wall 12.

Within the oven enclosure, suitable heating means such as the electric element 15 seen in Figure 1 may be provided and conventional supports such as that illustrated at 16 may be provided in order to support a rack within the oven in a known manner.

The oven illustrated in Figure 1 is also provided with a secondary housing 17 adjacent the oven and on the front face 18 of this housing there may be mounted suitable controls, all in accordance with known practices.

Each of the side walls 11 and 12 is provided with an L-shaped groove 19 comprising a first vertical portion 20 lying parallel to and spaced from the vertical front edge 11a of the wall 11, and a second horizontal portion 21 lying spaced from and parallel to the horizontal lower edge of the wall. Conveniently, the grooves 19 may be stamped into the sheet metal material constituting the walls 11 and 12, or, alternatively, any other convenient form of construction may be employed.

The door 22 is provided with a handle portion 23 and, on the inner surface of the door, two mounting brackets 24 are provided which, in turn, carry a pair of mounting elements 25. The mounting elements 25 comprise rollers mounted for rotation upon stub shafts 26 which are carried by flange 24a of each mounting bracket 24.

As can be seen in Figure 1, the mounting elements or rollers 25 are adapted to be received in the grooves carried by the walls 11 and 12 and support the door in such a manner that the mounting elements may be caused to traverse the grooves 19 so that the door may move from the first, closed, vertical position as shown in solid lines in Figure 2 to the second, horizontal, open position shown in Figure 1. One of the intermediate positions occupied by the door is shown in dotted lines in Figure 2.

It is apparent that the distance separating the two mounting elements or rollers 25 on each side of the door must not exceed the length of the vertical portion 20 of the grooves 19 and, in practice, the portion 20 of the groove 19 is made slightly longer than the distance separating the two mounting elements 25 for reasons which will now be described.

In order to retain the door in its vertical, closed position, detent means are provided which will releasably hold the door in that position. These detent means comprise a slight depression 27 in the lower surface 21a (Figs. 1 and 4) of the horizontal portions 21 of the grooves 19, the depressions 27 lying immediately beneath the vertical portions 20 of said grooves. The depressions 27 may readily be seen in Figures 1 and 4.

Thus, when the door is moved into its vertical, closed position, the lower mounting element or roller 25 will, as the door reaches the vertical position, drop into the recess 27 and be held thereby gravity acting upon the door 22. The door will, accordingly be retained in the vertical, closed position. In order to open the door, it is merely necessary to exert a slight upward pressure upon the handle portion 23 while, at the same time, pulling the handle portion outwardly away from the oven so as to cause the door to begin its movement towards the horizontal position in a manner which is apparent from Figure 2.

A consideration of Figure 1 will also make it apparent that the lower horizontal portion 21 of the grooves 19 is formed appreciably longer than the vertical portion 20 and, accordingly, when the door occupies the horizontal position, it may be slid rearwardly along the horizontal portion 21 until it occupies a recessed storage position.

From the foregoing description it will be apparent that the invention provides a simple, economical and efficient mounting structure for a door in which the door may be releasably retained in a closed position and which, when the door is in the open position, enables the door to be stored in a recessed position so that it does not hinder convenient access to the interior of the oven.

WHAT WE CLAIM IS:—

1. Door mounting structure comprising two spaced, vertical, parallel walls defining two sides of an opening to be closed by a door, an L-shaped groove in each wall, each groove opening towards the opposite wall and comprising a vertical portion parallel to and spaced from the vertical front edge of the wall and a horizontal portion parallel to and spaced from the horizontal lower edge of the wall, whereof the horizontal portion is provided with a depression in the lower surface thereof directly beneath the vertical portion of the groove, two mounting elements extending laterally from each side of the door and spaced apart a distance no greater than the length of the vertical portion of the grooves so as to be received in the grooves and to mount the door within the opening, the mounting elements being adapted to traverse the grooves from a first closed position in which both mounting elements on each side of the door are in vertical portions of the

grooves and wherein one of the mounting elements engages with the slight depression in the horizontal portion to releasably hold the door to a second open position in which both mounting elements on each side of the door are in the horizontal portions of the grooves.

2. Door mounting structure as claimed in claim 1 wherein the horizontal portion of each groove is longer than the vertical portion so that when the door has reached a horizontal position with both mounting elements in the horizontal portions of the grooves, the door may be slid rearwardly along the horizontal portions of the grooves to a recessed storage position.

3. Door mounting structure as claimed in claim 1 wherein the mounting elements carried by the door are rollers mounted for rotation on stub shafts carried by the door, the rollers being adapted to be received in the grooves.

4. Door mounting structure substantially as described and as illustrated in the accompanying drawings.

MOFFATS LIMITED,

Per:

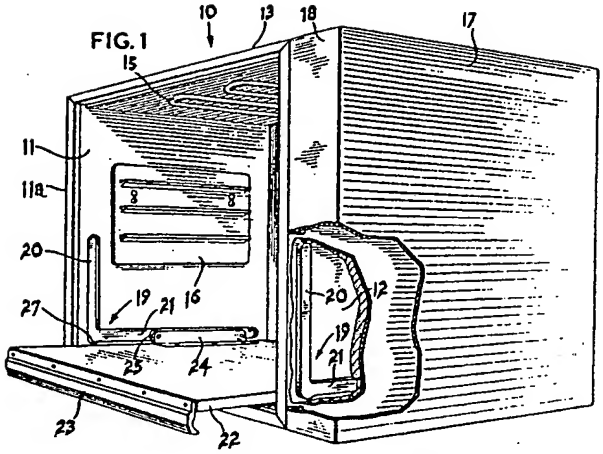
Boult, Wade & Tennant,
112, Hatton Garden, London, E.C.1,
Chartered Patent Agents.

Leamington Spa: Printed for Her Majesty's Stationery Office by the Courier Press.—1965.
Published at The Patent Office, 25, Southampton Buildings, London, W.C.2, from which copies may be obtained.

996233 COMPLETE SPECIFICATION

1 SHEET *This drawing is a reproduction of the Original on a reduced scale*

FIG. 1



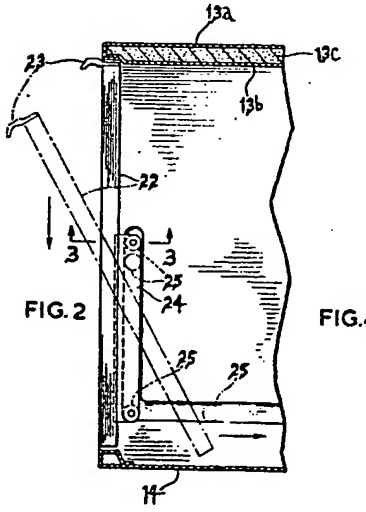


FIG. 2

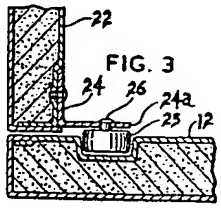


FIG. 3

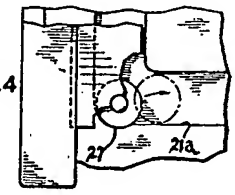


FIG. 4